

## **I. INTRODUCTION**

- A. Purpose: The purpose of this regulation is to establish a consistent regulatory guide for removal of underground storage tanks containing hazardous materials.
- B. Scope: This regulation shall apply to all owners, operators or responsible persons that have underground storage tanks regulated by this Department. This regulation can be distributed to the public.
- C. Author: The Deputy Chief of the Prevention Services Bureau, through the Assistant Fire Chief (Fire Marshal) of the Fire Prevention Division, is responsible for the content, revision, and periodic review of this regulation.
- D. Authority:
  - 1. Health and Safety Code, State of California.
  - 2. Los Angeles County Fire Code, Section 7902.1.7
- E. Definitions:
  - 1. Lower Explosive Limit (L.E.L.) is the minimum concentration of vapor in air at which propagation of flame will occur in the presence of an ignition source.
  - 2. Combustible Gas Indicator (CGI) is a device that measures carbon content to determine the lower explosive limit. This device may also measure oxygen content.

## **II. RESPONSIBILITY**

- A. Individuals, companies, and corporations that have underground tanks regulated by the Los Angeles County Fire Code, Title 32, shall be responsible for compliance with this regulation.
- B. Prevention Division personnel shall be familiar with the content of this regulation, issue permits, and verify compliance with this regulation.
- C. Operations Bureau personnel shall refer inquiries about the removal or abandonment of underground tanks to the respective jurisdictional office of the Fire Prevention Division.

### **III. POLICY**

- A. A permit shall be obtained from the jurisdictional Fire Prevention Division, office prior to altering, removing, abandoning or otherwise disposing of a hazardous material liquid storage tank. The permittee shall demonstrate how they will safely remove the tank and comply with the Los Angeles County Fire Code and this regulation.
- B. It is the policy of the Los Angeles County Fire Department not to allow tanks to be abandoned except when it is not practical or possible to remove the tank(s), as determined and approved by the Fire Department.
- C. Fire Prevention personnel shall be present during a tank removal or abandonment, and ensure the Tank Removal Permit (Form 710) and the Tank Removal Verification and Site Log (Form 710V) are completed and properly recorded at the regional fire prevention office.

### **IV. PROCEDURES**

- A. To obtain a permit, submit the following information to the jurisdictional fire prevention office.
  - 1. Copy of County of Los Angeles Public Works, Waste Management Division permit.
  - 2. Copy of State of California, Division of Occupational Safety and Health Administration, (CAL-OSHA) excavating permit. (Type of permit: Annual or Site Specific)
  - 3. Copy of South Coast Air Quality Management District (SCAQMD) degassing permit.
  - 4. A detailed site plan depicting tank location, buildings, property lines and overhead/underground utilities.
  - 5. Certificate of liability insurance.
  - 6. Additional permits may be required from local cities or other agencies.

7. Upon issuance of the "Tank Removal Permit" (Form 710) and "Tank Removal Verification and Site Log" (Form 710V) notify this department a minimum of 48 hours prior to removing tank(s). A representative of this Department shall inspect the site to verify compliance with this regulation.
8. A Tank Removal Permit (Form 710) is obtained from the jurisdictional Fire Prevention office. It shall be completed and on the job site prior to the tank removal.
9. A Tank Removal Verification and Site Log (Form 710V) is obtained from the jurisdictional Fire Prevention office and must be completed prior to and during the tank removal or abandonment. The Fire Inspector will need this form returned at the conclusion of the tank removal or abandonment for filing.

## V. REMOVAL PROCEDURES

- A. The Los Angeles County Fire Department approves two separate methods for the removal and transportation of underground storage tanks.
  1. Method #1: Tanks (**hazardous**) are removed from the ground and transported before cleaned. With this method all destination and manifest documentation must be submitted with the "Closure Report" to the Waste Management Division, Los Angeles County Public Works (see Appendix).
    - a. No site work shall be initiated until both a "Tank Removal Permit" and "Tank Removal Verification and Site Log" have been issued by Fire Department, which shall be kept on-site during all tank removal operations.
    - b. A properly operating and quarterly serviced Combustible Gas Indicator (CGI) and oxygen meter shall be used for determining and monitoring the L. E. L. and/or oxygen concentrations, with a person trained in the meters operation on site. (Meter may be field checked for proper operation.)
    - c. All electric systems and equipment known to be associated with the tank shall be locked out/tagged out or disconnected.
    - d. Secure the site to prevent pedestrian and vehicular access.

- e. Post "**NO SMOKING**" signs a minimum of 50 feet from the excavation site.
- f. Purge all piping of hazardous materials and vapors. This is accomplished by flushing water through all piping back to the tank if the contents will not react with water.
- g. Remove all possible remaining liquid via the use of an appropriate vacuum truck and hose. Comply with proper grounding and bonding procedures.
- h. Prior to excavation all tank(s) shall be checked for flammability (L. E. L.) levels, log the time and results on the "Tank Removal Verification and Site Log."
- i. Excavation of the tank(s) and associated piping may begin. The tank(s) shall not be cut or punctured. Care shall be taken to insure that no sparks are introduced into the excavation.
- j. Disconnect all piping from the tank(s). Through existing openings, add a minimum of 15 pounds of dry ice per 1,000 gallons tank capacity for each tank to dissipate the vapors per SCAQMD requirements (Rule 1149).
- k. Work can continue when an oxygen level of 5% or below has been reached and recorded on the "Tank Removal Verification and Site Log".

NOTE: After dry ice has been added to a tank the only reading to be taken is with an oxygen meter for oxygen levels, a Combustible Gas Indicator will not read a L.E.L. level with dry ice in a tank.

- l. The tank(s) may be removed if it is clearly demonstrated to the Fire Department representative that the oxygen level in the tank(s) is at or below 5%.
- m. A crane is required for removal of all tanks above 550 gallon capacity. After lifting the tank(s) they must be loaded directly onto a transporting vehicle and properly secured.
- n. If in the opinion of the Fire Inspector an unsafe condition exists, the inspector may cause all work to cease until the condition is corrected.

- o. The "Tank Removal Verification and Site Log" shall be completed on all tanks being removed and given to the Fire Inspector on site.
  - p. All tank(s) identification shall remain on the tank(s). Do not remove the Underwriters Laboratory tag or any other identification (I.D.) from the tank(s). Record I.D. numbers on the "Tank Removal Verification and Site Log." If there are not I.D. numbers on the tank(s), use the Los Angeles County Public Works permit number. Apply the permit number to both ends of the tank(s) with highly visible spray paint.
- 2. Method #2: Tanks (**non-hazardous**) are cleaned on-site and certified by a certified Marine Chemist or certified Industrial Hygienist as cleaned, vapor-free, and safe for salvage. All destination and manifest documentation must be submitted with the "Closure Report" to the Waste Management Division, Los Angeles County Public Works (see Appendix).
  - a. No site work shall be initiated until a "Tank Removal Permit" and "Tank Removal Verification and Site Log" have been issued by the Fire Department and shall be kept on site during all tank removal operations.
  - b. A properly calibrated and quarterly serviced CGI and oxygen meter shall be used for determining L.E.L. and/or oxygen concentrations, with a person trained in the meters operation on site. (Meter may be field checked for proper operation.)
  - c. All electric systems and equipment known to be associated with the tank(s) shall be locked out/tagged out or disconnected.
  - d. Secure the site to prevent pedestrian and vehicular access.
  - e. Post "**NO SMOKING**" signs a minimum of 50 feet from the excavation site.
  - f. Purge all piping of hazardous materials and vapors. This is accomplished by flushing water through all piping back to the tank if the contents will not react with water.
  - g. Remove all possible remaining liquid via the use of an appropriate vacuum truck and hose. Comply with proper grounding and bonding procedures.

- h. All tank(s) prior to excavation work shall be checked for flammability (L.E.L.) level, log the time and results on the "Tank Removal Verification and Site Log."
- i. Excavation of the tank(s) and associated piping may begin. The tank(s) shall not be cut or punctured. Care shall be taken to ensure that no sparks are introduced into the excavation.
- j. Disconnect all piping from the tank(s).
- k. Access the tank(s) through existing openings to begin cleaning and degassing following the SCAQMD requirements (Rule 1149). At this time a L.E.L. level reading shall be taken with the results recorded on the "Tank Removal Verification and Site Log."
- l. If there is no installed manhole in the tank and further access is needed for cleaning and inspection a pneumatic cold cutting tool shall be used. When an atmosphere of less than 10% L.E.L. is reached in the tank and recorded on the "Tank Removal Verification and Site Log," an inspection hole may be cut into the tank(s).
- m. After cleaning and rinsing is completed, the tank(s) shall be inspected by a certified Marine Chemist or certified Industrial Hygienist. With a certificate stating that the tank(s) is/are clean and non-hazardous and documented on the "Tank Removal Verification and Site Log," the tank(s) may be removed.

NOTE: Inerting the tank(s) with dry ice is not required with certified clean tank(s).

- n. A crane is required for removal of all tanks above 550 gallon capacity. After lifting the tank(s) they must be loaded directly onto a transporting vehicle and secured properly.
- o. If in the opinion of the Fire Inspector an unsafe condition exists, the inspector may cause all work to cease until the condition is corrected.
- p. The "Tank Removal Verification and Site Log" shall be completed on all tanks being removed and given to the Fire Inspector on site.

- q. All tank(s) identification shall remain on the tank(s). Do not remove the Underwriters Laboratory tag or any other identification from the tank(s). Record I.D. numbers on the "Tank Removal Verification and Site Log." If there are not I.D. numbers on the tank(s) use the Los Angeles County Public Works permit number. Apply the permit number to both ends of the tank(s) with highly visible spray paint.

## VI. ABANDONMENT PROCEDURE

- A. It is the policy of the Los Angeles County Fire Department not to allow tanks to be abandoned except when it is not practical or possible to remove the tank(s), as determined by the Fire Department.

- 1. Abandonment Methods:

- a. No site work shall be initiated until a "Tank Removal Permit" and "Tank Removal Verification and Site Log" have been issued by the Fire Department and shall be kept on site during all tank removal operations.
- b. A properly calibrated and quarterly serviced CGI and oxygen meter shall be used for determining L.E.L. and/or oxygen concentrations, with a person trained in the meters operation on site. (Meter may be field checked for proper operation.)
- c. All electrical systems and equipment known to be associated with the tank(s) shall be locked out/tagged out or disconnected.
- d. Secure the site to prevent pedestrian and vehicular access.
- e. Post "**NO SMOKING**" signs a minimum of 50 feet from the excavation site.
- f. Purge all piping of hazardous materials and vapors. This is accomplished by flushing water through all piping back to the tank if the contents will not react with water.
- g. Remove all possible remaining liquid via the use of an appropriate vacuum truck and hose. Comply with proper grounding and bonding procedures.

- h. All tank(s) prior to excavation work shall be checked for flammability (L.E.L.) level, log the time and results on the "Tank Removal Verification and Site Log."
- i. Excavation of the tank(s) and associated piping may begin. The tank(s) shall not be cut or punctured. Care shall be taken to insure that no sparks are introduced into the excavation.
- j. Disconnect all piping from the tank(s).
- k. Access the tank(s) through existing openings to begin cleaning and degassing following all SCAQMD requirements (Rule 1149). At this time a L.E.L. level reading shall be taken with the results recorded on the "Tank Removal Verification and Site Log."
- l. If there is no installed manhole in the tank and further access is needed for cleaning and inspection a pneumatic cold cutting tool shall be used. When an atmosphere of less than 10% L.E.L. is reached in the tank and recorded on the "Tank Removal Verification and Site Log," an inspection hole may be cut into the tank(s).
- m. After cleaning and rinsing is completed, the tank(s) shall be inspected by a certified Marine Chemist or certified Industrial Hygienist. With a certificate stating that the tank(s) is/are clean and non-hazardous and documented on the "Tank Removal Verification and Site Log".

NOTE: Inerting the tank(s) with dry ice is not required with certified clean tank(s).

- n. If in the opinion of the Fire Inspector an unsafe condition exists, the inspector may cause all work to cease until the condition is corrected.
- o. The "Tank Removal Verification and Site Log" shall be completed on all tanks being abandoned and given to the Fire Inspector on site.
- p. All tank(s) identification shall remain on the tank(s). Do not remove the Underwriters Laboratory tag or any other identification from the tank(s). Record I.D. numbers on the "Tank Removal Verification and Site Log".



- q. The tank(s) may now be filled with a two-sack concrete mix per cubic yard of sand. Using enough water to allow smooth flow and good compactness to concrete mix.
- r. Pump the fill mixture into the tank(s) until the concrete flows out the top of the vent openings. The Fire Inspector shall determine that the tank(s) is/are full and shall direct any other operations required to properly complete the abandonment procedure.

## **VII. DOCUMENTATION**

- 1. Upon completion of the tank removal or abandonment the Fire Inspector at the job site shall receive a copy of the Tank Removal Permit (Form 710) and Tank Verification and Site Log (Form 710V).
- 2. The Fire Inspector will deliver the completed forms to the fire prevention office clerk or site supervisor for recording and tracking. The office clerk or site supervisor shall enter the required information from the forms into the office underground tank database. Clerical staff or site supervisor shall follow instructions outlined in Volume 9, Chapter 1 of the General Operations Manual providing instruction on Forms 710 and 710V.
- 3. The clerk or site supervisor shall back-up the underground tank database monthly on the Prevention Server, and store it in the designated office folder.
- 4. Clerical staff should keep hardcopies of the "Tank Removal Permit" and the "Tank Removal Site Verification and Site Log" until the quarterly report is printed and stored. Once the report is filed at the Area Office then hardcopies of the Permit and Site Log retained by the clerical staff can be discarded.
- 5. A hardcopy of the database report should be printed quarterly and stored in the office files until updated.

## **APPENDIX**

### **County of Los Angeles Department of Public Works Waste Management Division**

San Gabriel/San Dimas Area  
(626) 458-3520 or (626) 458-3510  
Fax (626) 458-3569

Whittier  
(562) 906-8426

Centinela Valley / Lennox Area  
(310) 534-4862

Commerce  
(323) 887-4456

Newhall  
(661) 222-2953

### **State of California (CAL-OSHA) Division of Occupational Safety and Health**

Los Angeles area: (213) 576-7451  
Pico Rivera area: (562) 949-7827  
Torrance area: (310) 516-3734  
Van Nuys area: (818) 901-5403  
West Covina area: (626) 472-0046

### **South Coast Air Quality Management District**

(909) 396-2001